

NOTICE

This document contains the “**STATUS UPDATE**” (four page overview document on the project) and four fact sheets on specific subjects as they relate to the Environmental Studies and Cleanup Actions at the Formerly Used Defense Site Clinton-Sherman Industrial Airpark.

The fact sheets include:

1. Alternate Water Supply
2. Soil and Water Investigations
3. Petroleum Storage Tank and Associated Facilities Removal
4. Investigation of Suspected Ordnance and Explosive Waste Chemical Warfare Materials

STATUS UPDATE

September 1998

U. S. Army Corps of Engineers, Tulsa District Environmental Studies and Cleanup Actions at the Formerly Used Defense Site Clinton-Sherman Industrial Airpark, Washita County, Oklahoma

Background

The U.S. Army Corps of Engineers, Tulsa District is currently involved in environmental studies and cleanup activities at the Clinton-Sherman Industrial Airpark. The Airpark is located at Burns Flat, in Washita County, Oklahoma, 85 miles west of Oklahoma City. The U.S. Navy and the U.S. Air Force once operated an air base at the site before its current civilian use. Consequently, the Airpark is considered a Formerly Used Defense Site. The Corps of Engineers is tasked to clean up the site under the authority of the 1986 Defense Environmental Restoration Program-Formerly Used Defense Sites.

Review of Major Activities

Major activities associated with the environmental restoration work at the Airpark are detailed in this section by issues, actions, and pending work.

- **Building Demolition and Debris Removal**

Issue: Six abandoned buildings at the Airpark were considered safety hazards.

Action: Removal of the buildings began in October 1991 and was completed in February 1992.

Pending: This work has been completed. There is no further action.

- **Petroleum Storage Tank Leakage Evaluation and Removal**

Issue: Leaks from underground and aboveground storage tanks have contaminated some of the surrounding soils.

Action: A contract was awarded in December 1991 for the removal of underground and aboveground tanks, transformers, pipelines, pump stations, and associated facilities at the fuel yard. The contract was completed in March 1993. Additional underground storage tanks were discovered and another contract was awarded in March 1994 for their removal, for performing remedial activities on fuel contaminated soil, and for completing closure reports. The last of the underground storage tank closure reports was approved by the Oklahoma Corporation Commission in August 1998.



Pending: All problem tanks and associated contamination have been removed. No further action is required.

- **Ordnance and Explosive Waste Identification and Removal**

Issue: The presence of ordnance and explosive wastes was suspected due to the presence of ammunition bunkers, a building with ordnance markings, and a detonation pit located in an area labeled “ammo storage area” on historic maps. In addition, a machine gun target area was located outside the designated ordnance area.

Action: The Corps of Engineers conducted site surveys in November 1992 and completed an archive search in July 1994. No ordnance or explosive materials of significance were found. The site has been determined as RAC 5 (Risk Assessment Code 5) which means no further action is recommended.

Pending: No additional action is required.

- **Alternate Water Supply**

Issue: In December 1989, the Oklahoma State Department of Health closed three water supply wells when trichloroethylene solvent contamination was found in the well water. Another well was closed due to its petroleum odor. Three other wells were restricted to use only during times of peak demand. Due to the shortage of water, the Corps of Engineers was authorized to address the loss of water supplied to the Airpark.

Action: Studies to replace the lost water supply were completed in October 1992 and were submitted to the Oklahoma State Department of Health. In January 1993, the Oklahoma State Department of Health recommended that new wells be drilled. After coordinating with various agencies, including representatives from the town of Burns Flat, the City of Clinton, and the Southwestern Oklahoma Development Authority, the Corps of Engineers, through its contractor, completed in July 1994, installing six new wells on a property owned by the City of Clinton. The new well sites appear to be not affected by the activities of the Airpark. However, it has been discovered that water from the new wells contained nitrites and nitrates above the level that regulations allow. These nitrites and nitrates are likely due to agricultural fertilization of the overlying farmland. Consequently, a water treatment plant was constructed to reduce the level of nitrites and nitrates. The plant was completed in January 1996. Since the new wells did not yield sufficient quantities of water to compensate for the water lost from the wells closed in 1989, a second stage was added to the water supply project in 1997. This stage consisted of designing and constructing a system to pump potable water from the City of Clinton water treatment plant located at Clinton Lake through an existing pipeline to the Airpark water tank. The design was approved by the Oklahoma Department of Environmental Quality in March 1998. Construction of the pump house and repair of the existing water line began in August 1998.

Pending: The second stage of the project is scheduled to be completed in December 1998.



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- **Soil and Water Contamination Study and Cleanup**

Issue: As discussed in the previous sections of this update, it is known that some soil and water contamination has occurred at the Airpark. Eight areas have been identified as potential sources of contamination — four landfills suspected of being used for Department of Defense activities, the base lake, a hangar maintenance area, a fuel yard, and a fire training area.

Action: From February 1992 to April 1992, 43 groundwater monitoring wells were installed. Samples of surface water, surface and subsurface soils, and groundwater were collected at each site and tested. By February 1993, 16 more wells were installed to better define the nature and area of contamination. From September to December 1996, an additional 53 groundwater monitoring wells were installed. Samples from 112 groundwater monitoring wells, surface water, sediment, and surface and subsurface soils were collected and analyzed. A human health and environmental risk assessment was completed. The results of the sampling and the assessment are summarized in the remedial investigation report made available for public review in the Southwestern Oklahoma Development Authority Information Repository in July 1998. The address of the Information Repository is listed at the end of this status update.

A feasibility study has been contracted to address the areas of concern identified in the remedial investigation and to evaluate remedial actions that may be implemented.

Pending: The report on the feasibility study is anticipated to be available for review in late 1999, at which time a public meeting will be scheduled.

Communication with the Public

U.S. Army and Federal regulations require that the Corps of Engineers keep the public informed and include public input into the decision-making process. To achieve these goals, copies of the completed study documents are made available for public review and comments at the office of the Southwestern Oklahoma Development Authority located at the Clinton-Sherman Industrial Airpark. Public meetings have been held at significant points in the environmental restoration work. The meetings provide valuable input into the decision making process associated with the restoration work. The public is invited to make comment or raise questions during the Corps work at the Airpark.

Questions and comments about this Formerly Used Defense Site project can be directed to:

U.S. Army Corps of Engineers, Tulsa District, CESWT-PP-M
Attn.: G.T. Gowda, P.E.
Project Manager
P.O. Box 61
Tulsa, OK 74121-0061
Phone: (918) 669-7553



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Future Meetings and More Information

Public meetings have been held throughout the cleanup process. A meeting is scheduled for October 6, 1998, at the Western Oklahoma Vo-Tech building located in the Clinton-Sherman Airpark. Meetings are held to share information about the Corps of Engineers work and future plans at the site and to receive feedback from the public. Information on the Corps efforts can also be found at the World Wide Web Site address: www.swt.usace.army.mil. Detailed information and official site documents can be found at:

Southwestern Oklahoma Development Authority
Clinton-Sherman Industrial Airpark
Burns Flat, OK 76264
Phone: 405-562-4484
Hours: 9AM-5PM; Monday through Friday



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Clinton-Sherman Industrial Airpark, Oklahoma, Formerly Used Defense Site **ALTERNATE WATER SUPPLY**

Background

Clinton-Sherman Industrial Airpark, located 14 miles west of Clinton, Oklahoma, was occupied by the Clinton Naval Air Station (1942-1946) and the Clinton-Sherman Air Force Base (1954-1975). During Department of Defense operations, the Navy and the Air Force stored and used fuels, paints, solvents and other materials as a part of flight support. Practices that were once considered safe and appropriate have resulted in contaminants being released into soils. In December 1989, the Oklahoma State Department of Health closed three water supply wells when trichloroethylene (TCE) solvent contamination was found. Three other wells were restricted to use only during times of peak demand. One well was closed due to its petroleum odor. The Airpark has 16 water supply wells. Because the Air Force was suspected to have used TCE as a solvent in the cleaning of aircraft parts during their occupation. The Corps of Engineers was authorized to supplement the loss of water previously supplied to the Airpark by the wells that have been closed or restricted by the Oklahoma State Department of Health.

Recent Clean-up Activities

A study to replace the lost water supply was completed in October 1992 and was submitted to the Oklahoma State Department of Health. The study recommended treatment of the existing water supply at the Airpark or construction of additional wells in an alternate well field. In January 1993, the Oklahoma State Department of Health recommended the construction of new wells. After coordinating with various agencies, including representatives from the town of Burns Flat the city of Clinton, and the Southwestern Oklahoma Development Authority, the Corps of Engineers constructed six new wells on the property owned by the city of Clinton. That property is located approximately 3 miles northeast of the Airpark. The new well sites are not affected by activities of the Airpark. However, water samples from the new wells contain levels of nitrates and nitrites above the regulation level. These nitrates and nitrites are likely due to agricultural fertilization of the overlying farmland. A reverse osmosis treatment plant was constructed to reduce the nitrate and nitrite levels. The plant was turned over to the City of Clinton in January 1996 for operation and maintenance. At present, the City of Clinton is the owner of Stage I, Alternate Water Supply.

Since the new wells did not yield sufficient quantities of water to compensate for the loss of water, a second stage was added to the water supply project in 1997. The second stage consists of designing and constructing a system to pump water from the City of Clinton water treatment plant located at Clinton Lake through an existing pipe line to the Airpark water tank. The design was approved by the Oklahoma Department of Environmental Quality in March 1998. Construction of the pump house and repair of the existing water line began in August 1998.



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Future Actions

The second stage of the project is scheduled to be completed in December 1998. After completion of the second stage, the water supply system will be handed over to the City of Clinton for operation and maintenance.

Comments and More Information

Questions about this Formerly Used Defense Site project can be directed to:

U.S. Army Corps of Engineers, Tulsa District, CESWT-PP-M
Attn.: G. T. Gowda, P.E.
Project Manager
P.O. Box 61
Tulsa, OK 74121-0061
Phone: 918-669-7553

More information can be found at the following location:

Southwestern Oklahoma Development Authority
Clinton-Sherman Industrial Airpark
Burns Flat, OK 76264
Phone: 405-562-4484

Clinton-Sherman Industrial Airpark, Oklahoma, Formerly Used Defense Site
SOIL AND WATER INVESTIGATIONS

Background

The Clinton-Sherman Industrial Airpark (formerly the Clinton Naval Air Station and the Clinton-Sherman Air Force Base) is located at Burns Flat, in Washita County, Oklahoma, approximately 85 miles west of Oklahoma City. The facility occupies approximately 5,000 acres of land of which approximately 2,000 acres are being investigated under the Department of Defense Environmental Restoration Program, Formerly Used Defense Sites. U.S. Navy and U.S. Air Force activities and routine operations have resulted in possible contamination of soils, groundwater, and surface water.

Areas Investigated

Several portions of the Clinton-Sherman Industrial Airpark were identified as target areas for investigation. These areas include:

- Four Landfills
- A Fire Fighting Training Area
- A Hanger Maintenance Area
- A Petroleum, Oils, and Lubricants Fuel Yard
- A Base Lake
- Underground and Aboveground Storage Tank Sites

Recent Cleanup Activities

The U.S. Army Corps of Engineers, Tulsa District, through its contractors, conducted field activities to support a remedial investigation at the Clinton-Sherman Industrial Airpark. Field activities conducted by the Foster Wheeler Environmental Corporation included:

- Geophysical Survey - Conducting geophysical surveys of the landfills and sampling locations;
- Subsurface Soil Investigation - Drilling soil borings, obtaining subsurface soil samples for chemical analysis, and preparing soil boring logs for each boring;
- Groundwater Investigation - Installing monitor wells, obtaining groundwater samples for chemical analysis, and conducting a water level survey;
- Surface Soil and Sediment Investigation - Obtaining surface soil/sediment samples for chemical analysis; and
- Surface Water Investigation - Obtaining surface water samples for chemical analysis.



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Results of the Investigation

The report on the remedial investigations conducted by the Corps of Engineers is presently being reviewed by the Oklahoma Department of Environmental Quality and other interested people. Results from the field investigations indicate that two solvents (trichloroethene and 1,2-dichloroethene) and two fuel-related compounds (isopropylbenzene and ethylbenzene) were present in groundwater in the upper portions of the aquifer at two general locations. One location encompasses the area of the hangars north of the control tower and the former petroleum yard. The other location encompasses the area around the landfill north of the golf course. Studies of these contaminants in the aquifer indicate that they will not reach the Airpark boundary with detectable concentrations. The same types of organic compounds, along with some heavy metals, were detected in the surface water and sediment samples collected from the base lake and streams, but at concentrations that posed negligible risks. Solvents were found immediately below the floor of the maintenance hangar located north of the control tower. Lead was found in surface soils at the fire training area and the maintenance hangar area. No chemicals of concern were identified in the subsurface soils.

Recommendations for Additional Work

The remedial investigation report recommended a feasibility study of remedial activities to reduce the risks associated with the groundwater, surface soil, sediment, and surface water contamination. A feasibility study is currently underway that would address these areas of concern and evaluate remedial actions that may be implemented. The results of this feasibility study are anticipated in late 1999, at which time another public meeting will be scheduled.

Comments and More Information

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Clinton-Sherman Industrial Airpark, Oklahoma, Formerly Used Defense Site

PETROLEUM STORAGE TANK AND ASSOCIATED FACILITIES REMOVAL

Site Background

Clinton-Sherman Industrial Airpark, located 14 miles west of the city of Clinton, Oklahoma, was occupied by the Department of Defense and used by the Clinton Naval Air Station (1942-1946) and the Clinton-Sherman Air Force Base (1954-1975). During the Department of Defense operations, underground and aboveground storage tanks were used to store fuels for land and air operations. The use of petroleum tanks has resulted in contaminating surrounding soils and groundwater.

Project Description

Part of the environmental restoration work at the Airpark consists of emptying, removing, and disposing of 26 underground storage tanks, 4 aboveground storage tanks, about 2 miles of transfer pipeline, 2 pump stations, 4 fuel transfer stations. All associated facilities, such as electrical transformers, were removed. The fuel-contaminated soil was removed and disposed of. Clean soil was used to fill the area.

The project is divided into two phases.

- The first phase consists of emptying, removing, and disposing of 20 underground tanks, 4 aboveground tanks, the pipeline, the pump stations, and the transfer stations, and emptying and closing in-place 3 underground tanks.
- The second phase consists of emptying, removing, and disposing of 3 underground tanks and remediating fuel contaminated soil at 5 former underground tank sites.

Remediation Methods

During phase I, excavated fuel-contaminated soil was treated in a permitted bio-remediation cell constructed on the old asphalt tarmac west of the airport runway. The treated soil was spread on the airport fields nearby, and the cell was removed.

During phase II, fuel contaminated soil was excavated and disposed at a permitted off-site facility. The excavated sites were backfilled with environmentally clean soil, and a closure report was completed for each site. The Oklahoma Corporation Commission approved each report, with the last approval received in July 1998.



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Oversight Regulators

The Oklahoma Corporation Commission and the Oklahoma Department of Environmental Quality are working in an oversight capacity over the Corps of Engineers through all aspects of the environmental investigations and cleanup actions.

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Clinton-Sherman Industrial Airpark, Oklahoma, Formerly Used Defense Site **INVESTIGATION OF SUSPECTED ORDNANCE AND EXPLOSIVE WASTE CHEMICAL WARFARE MATERIALS**

Site Background

Clinton-Sherman Industrial Airpark, located 85 miles west of Oklahoma City, Oklahoma. This site was occupied by the Clinton Naval Air Station (1942-1946) and the Clinton-Sherman Air Force Base (1954-1975).

The former Clinton Naval Air Station was constructed in 1942 and covered more than 5,152 acres. While it was originally established to support a Fleet Air Detachment, the former Naval Air Station was used during World War II for operational and pre-operational training of naval aviation personnel. The base was designated as Headquarters, Training Task Force and was a home to "Project Option," experimental operations involving a contingent of 160 land planes.

Units stationed at Clinton Naval Air Station conducted gunnery practice at several offshore facilities, including Houma, Louisiana; Conroe, Texas; and an offshore gunnery area near Galveston, Texas. On-site ordnance storage areas included a rifle and machine gun range, two ammunition magazines, and structures on skeet and trap ranges. In 1945, the base provided storage for surplus aircraft as it had sufficient space to store over 5,000 aircraft.

Clinton Naval Air Station was declared surplus in 1946, decommissioned, and turned over to the city of Clinton by the War Assets Administration. Between 1946 and 1954, the city of Clinton used the installation as a municipal airport and leased a portion of the installation to a local company for aircraft salvage operations.

In 1954, the U.S. Government leased 2,588 acres of the former Naval Air Station from the city of Clinton and established Clinton-Sherman Air Force Base. Between 1955 and 1964, the U.S. Government acquired 528 acres of land in fee and 3,579 acres in easement. The base was a Strategic Air Command Alert Facility, manned with B-52 Bombers.

The Air Force constructed an ordnance area over the north end of the former Navy NW-SE runway which included five bunkers, two small-arms warehouses, and a pyrotechnics warehouse. Other ordnance-associated areas included two "shooting-in butts" (large mounds of dirt used for calibrating guns on aircraft and small arms target practice). A former demolition-burn area has been located north of the base lake; however, no documentation has been found detailing the use of the area.



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Investigations and Findings

The U.S. Army Corps of Engineers, St. Louis District investigated suspected ordnance and explosive waste contamination in limited areas of the former Clinton-Sherman Air Force Base. The Corps has conducted a site visit in November 1992 and has completed an Archive Search Report in June 1994. The Archives Search Report concluded that there does not appear to be any chemical warfare materials at the former base. Pyrotechnics debris or other conventional munitions waste could exist in the 1945 Navy trash burner area or the Air Force burner-demolition facility. The report recommended a score of RAC 5, that is Risk Assessment Code 5 which indicates no further action.

Further Actions

No further action for ordnance removal is recommended.

Comments and More Information

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